MA 3197(5–1)
Ordinary and Partial Differential Equations
Syllabus

Texts:

(1) **Elementary Differential Equations and Boundary Value Problems** by Boyce and DiPrima, sixth edition; and (2) **An Introduction to Matrix Algebra** (MA) by C. W. Rasmussen

HOURS	SECTION	TOPIC
2-2	2.8	Exact Equations
2-4	3.6	Undetermined Coefficients
2-6	3.7	Variation of Parameters
3-9	3.8, 3.9	Free Damped Motion, Driven
3-12	4.1, 4.2, 4.3	Higher Order Linear Equations.
1-13	**Quiz 1**	
3-16	6.1,6.2	Laplace Transform, Solution of IVPs.
2-18	chapter 1 (MA)	Linear Systems and Matrices
3-21	chapter 3 (MA)	Determinants and inverse matrices.
3-24	chapter 4 (MA)	Eigenvalues and Eigenvectors.
2-26	7.1, 7.4	Introduction to Systems of ODEs.
2-28	7.5	Homogeneous Linear Systems
1-29	7.6	Complex eigenvalues
1-30	**Quiz 2**	
4-34	notes	First order PDE's and Method of Characteristics
3-37	10.1	Separation of Variables
3-40	10.2	Fourier Series
1-41	10.3	Convergence of Fourier Series
2-43	10.4	Fourier Sine and Cosine Series
3-46	10.5	Other Heat Conduction Problems
1-47	**Quiz 3**	
3-50	10.6	Wave Eq.
2-52	10.7	Laplace's Eq.
3-55	notes	Fourier Series in Two Variables
2-57	notes	Fourier Integral
1-58	**Quiz 4**	
2-60	notes	Fourier Transform
5-65	Holidays/Review	

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